

Fig. 1A

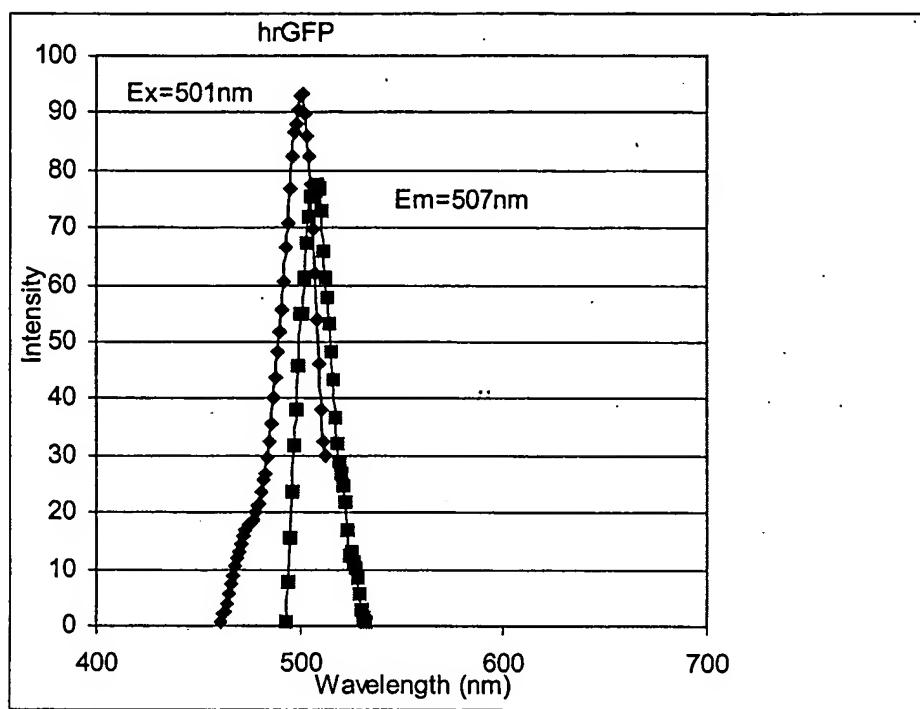


Fig. 1B

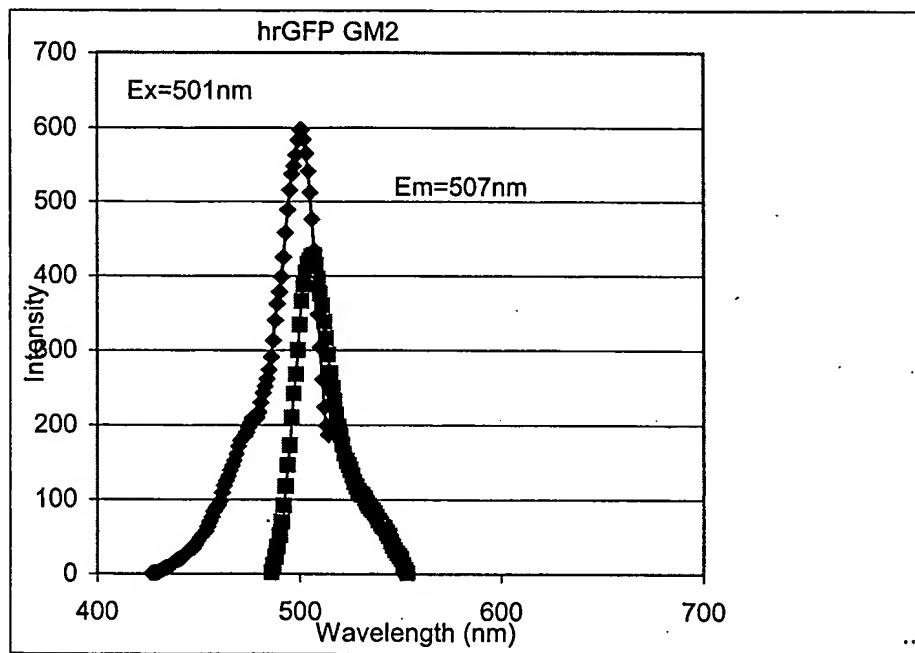


Fig. 1C

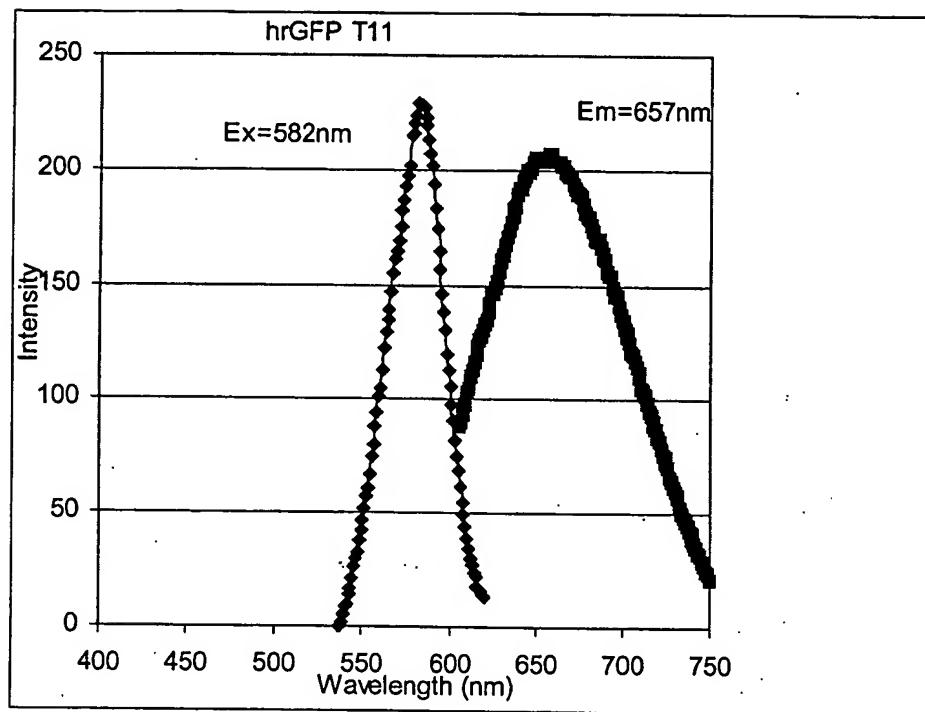


Fig. 1D

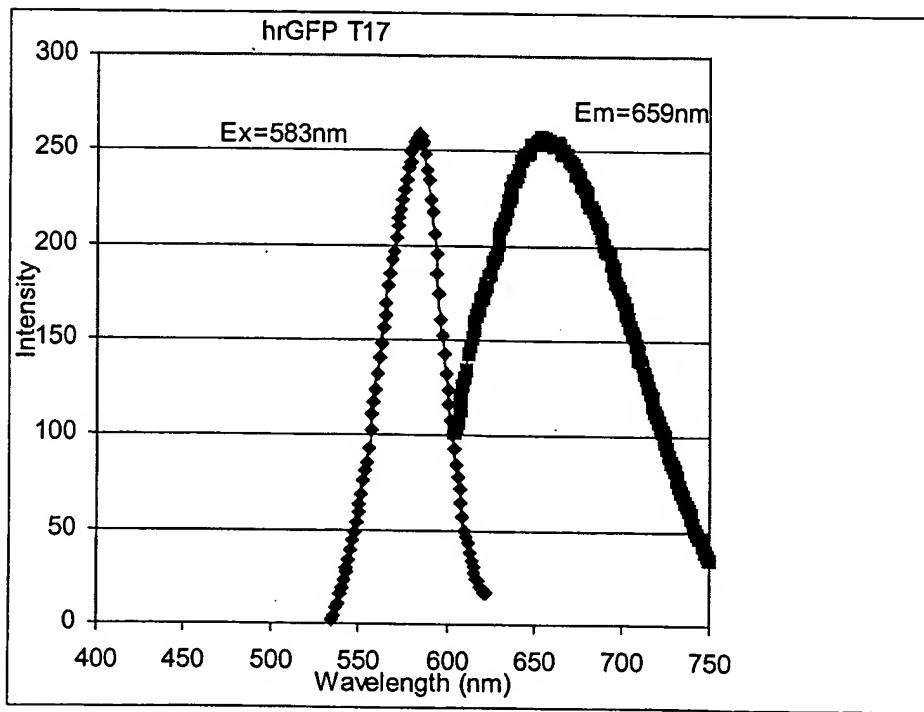


Figure 2. Expression of hrGFP wild-type or hrGFP GM2 Mutant in CHO Cells

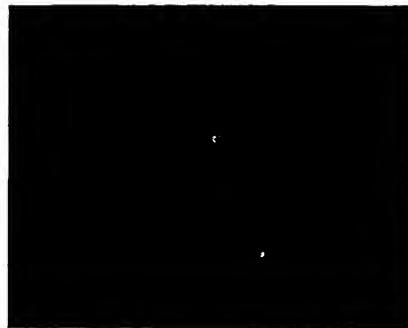


Fig. 2A

hrGFP wild-type



Fig. 2B

hrGFP GM2

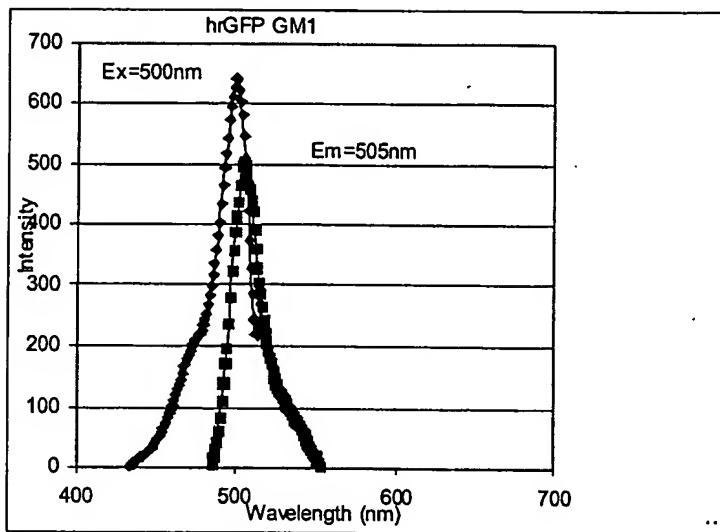


Fig. 3A

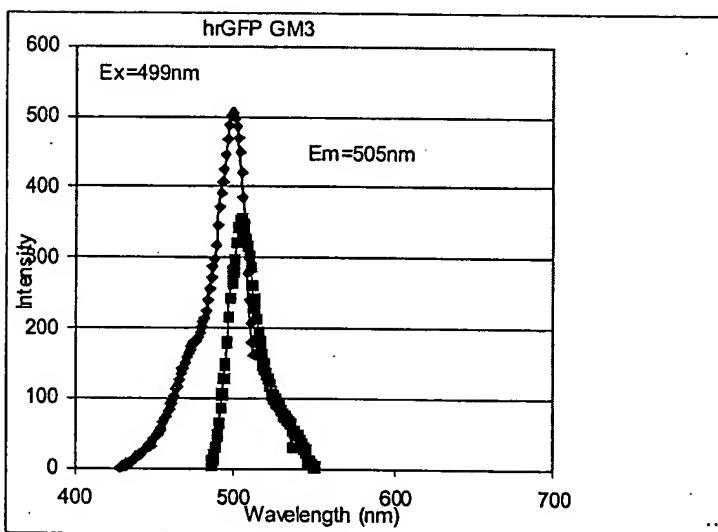


Fig. 3B

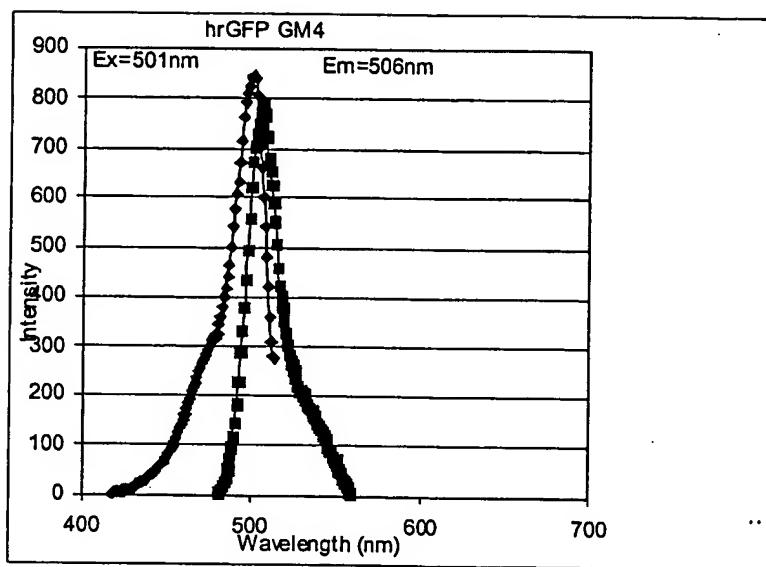


Fig. 3C

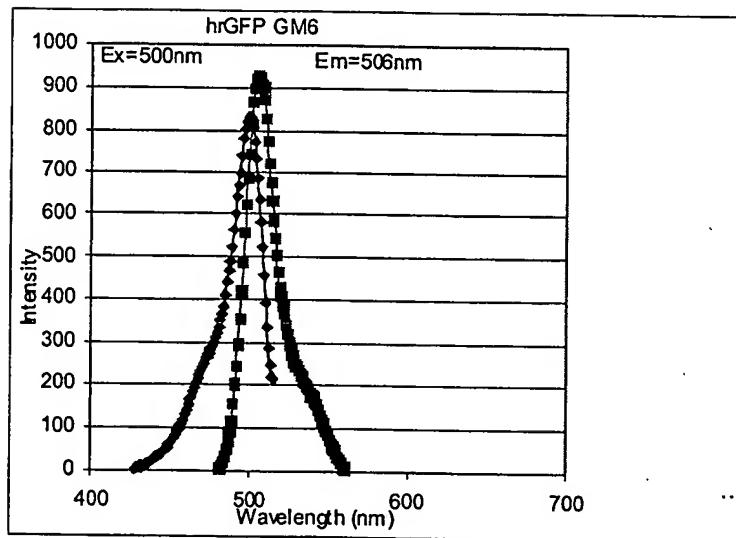


Fig. 3D

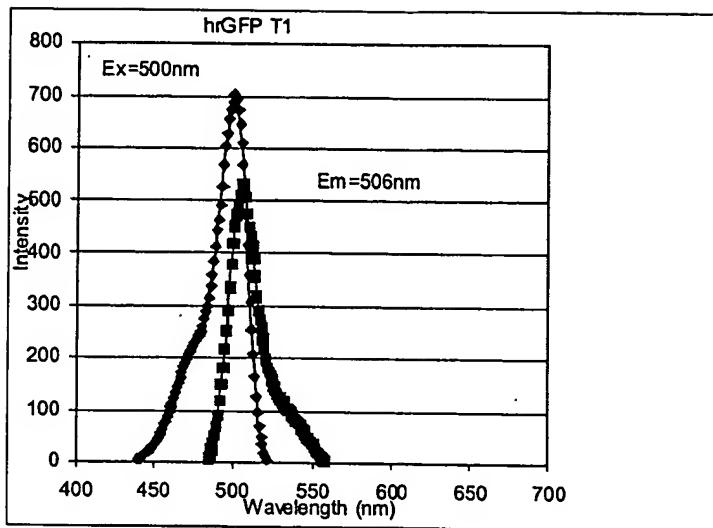


Fig. 3E

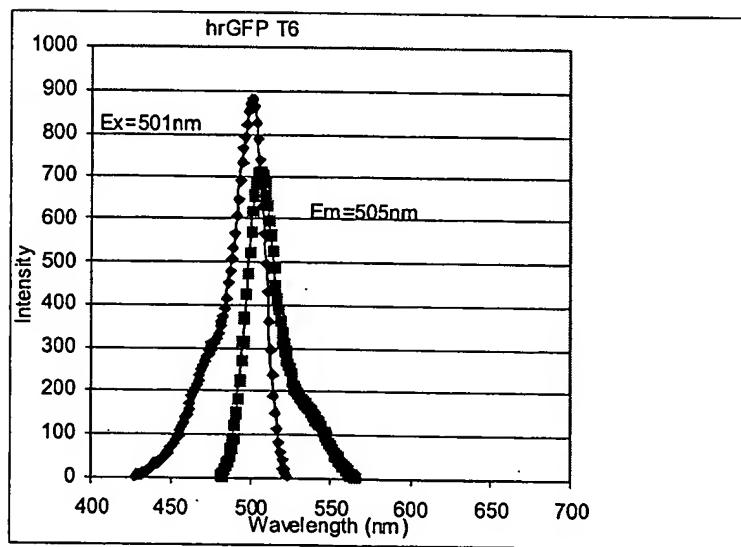


Fig. 3F

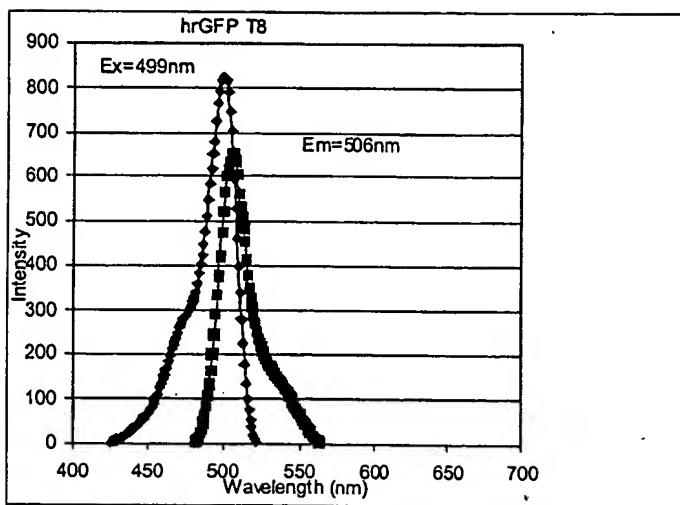


Fig. 3G

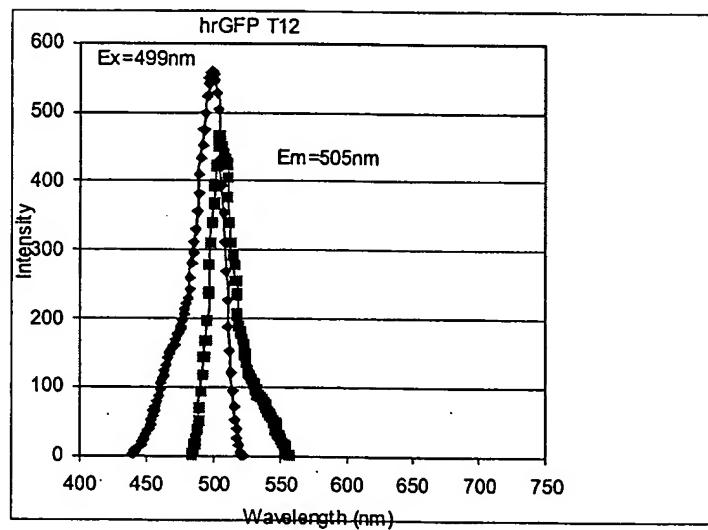


Fig. 3H

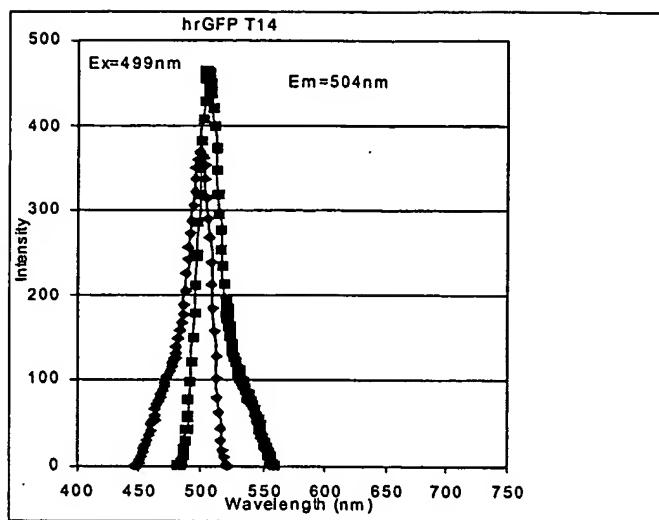


Fig. 3I

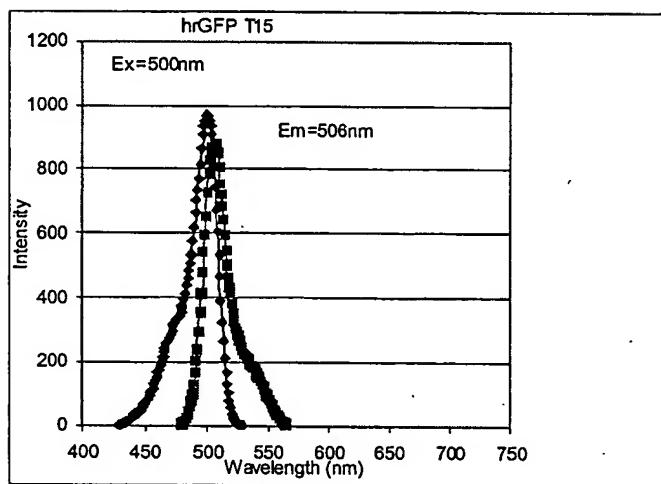


Fig. 3J

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1	5								10					15		
agc	ttc	aag	gtg	aac	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
	20								25					30		
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	ttc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	
	35								40					45		
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
	50								55					60		
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
	65								70					75		80
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
	85								90					95		
tac	gag	cgc	acc	ctg	cgc	tac	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
	100								105					110		
agc	gac	atc	aac	ctg	atc	gag	gag	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
	115								120					125		
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
	130								135					140		
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
	145								150					155		160
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
	165								170					175		
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
	180								185					190		
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
	195								200					205		
gtg	gag	gac	ggc	ggc	ttc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
	210								215					220		
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:1	
	225								230					235		SEQ ID NO:2

Fig. 4

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1	5								10					15		
agc	ttc	aag	gtg	aac	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
									20					25		30
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	tta	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Leu	Gly	Asn	Gln	Leu	Val	
									35					40		45
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	tcc	gcc	tcc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
									50					55		60
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	tcc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
									65					70		75
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	tcc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
									85					90		95
tac	gag	cgc	acc	ctg	cgc	tac	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
									100					105		110
agc	gac	atc	aac	ctg	atc	gag	gag	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
									115					120		125
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
									130					135		140
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
									145					150		155
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
									165					170		175
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
									180					185		190
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
									195					200		205
gtg	gag	gac	ggc	ggc	ttc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
									210					215		220
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:3	
									225					230		235
															SEQ ID NO:4	

Fig. 5

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1					5				10				15			
agc	ttc	aag	gtg	aac	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
					20				25				30			
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	ttc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	
					35				40				45			
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
					50				55				60			
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
					65				70				75		80	
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
					85				90				95			
tac	gag	cgc	acc	ctg	cgc	tac	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
					100				105				110			
agc	gac	atc	aac	ctg	atc	gag	ggg	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Gly	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
					115				120				125			
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
					130				135				140			
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
					145				150				155		160	
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
					165				170				175			
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
					180				185				190			
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
					195				200				205			
gtg	gag	gac	ggc	ggc	ttc	gta	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
					210				215				220			
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:5	
					225				230				235		SEQ ID NO:6	

Fig. 6

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1	5														15	
agc	ttc	aag	gtg	aac	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
	20														30	
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	ttc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	
	35														45	
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
	50														60	
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
	65														80	
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
	85														95	
tac	gag	cgc	acc	atc	cgc	tac	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Met	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
	100														110	
agc	gac	atc	aac	ctg	atc	gag	gag	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
	115														125	
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
	130														140	
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
	145														160	
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
	165														175	
tac	agc	tgc	cac	atc	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
	180														190	
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
	195														205	
gtg	gag	gac	ggc	ttc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672	
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
	210														220	
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:7	
	225														SEQ ID NO:8	

Fig. 7

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1					5				10					15		
agc	ttc	aag	gtg	aac	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
					20				25					30		
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	tcc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Ser	Gly	Asn	Gln	Leu	Val	
					35				40					45		
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	tcc	gcc	tcc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
					50				55					60		
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
					65				70					75		80
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
					85				90					95		
tac	gag	cgc	acc	ctg	cgc	tac	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
					100				105					110		
agc	gac	atc	aac	ctg	atc	gag	gag	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
					115				120					125		
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
					130				135					140		
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
					145				150					155		160
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Leu	Asn	Ser	Gly	Lys	Phe		
					165				170					175		
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
					180				185					190		
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
					195				200					205		
gtg	gag	gac	ggc	ggc	ttc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
					210				215					220		
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:9	
					225				230					235		SEQ ID NO:10

Fig. 8

atg gtg agc aag cag atc ctg aag aac acc ggc ctg cag gag atc atg	48
Met Val Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Met	
1 5 10 15	
agc ttc aag gtg aac ctg gag ggc gtg aac aac cac gtg ttc acc	96
Ser Phe Lys Val Asn Leu Glu Gly Val Val Asn Asn His Val Phe Thr	
20 25 30	
atg gag ggc tgc ggc aag ggc aac atc ctg ttc ggc aac cag ctg gtg	144
Met Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val	
35 40 45	
cag atc cgc gtg acc aag ggc gcc ccc ctg ccc ttc gcc ttc gac atc	192
Gln Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile	
50 55 60	
ctg agc ccc gcc ttc cag tac ggc aac cgc acc ttc acc aag tac ccc	240
Leu Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro	
65 70 75 80	
gag gac atc agc gac ttc ttc atc cag agc ttc ccc gcc ggc ttc gtg	288
Glu Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val	
85 90 95	
tac gag cgc acc ctg ctc tac gag gac ggc ggc ctg gtg gag atc cgc	336
Tyr Glu Arg Thr Leu Cys Tyr Glu Asp Gly Gly Leu Val Glu Ile Arg	
100 105 110	
agc gac atc aac ctg atc gag gag atg ttc gtg tac cac gtg gag tac	384
Ser Asp Ile Asn Leu Ile Glu Glu Met Phe Val Tyr His Val Glu Tyr	
115 120 125	
aag ggc cgc aac ttc ccc aac gac ggc ccc gtg atg aag aag acc atc	432
Lys Gly Arg Asn Phe Pro Asn Asp Gly Pro Val Met Lys Lys Thr Ile	
130 135 140	
acc ggc ctg cag ccc agc ttc gag gtg gtg tac atg aac gac ggc gtg	480
Thr Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val	
145 150 155 160	
ctg gtg ggc cag gtg atc ctg gtg tac cgc ctg aac agc ggc aag ttc	528
Leu Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe	
165 170 175	
tac agc tgc cac atg cgc acc ctg atg aag agc aag ggc gtg gtg aag	576
Tyr Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys	
180 185 190	
gac ttc ccc gag tac cac ttc atc cag cac cgc ctg gag aag acc tac	624
Asp Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr	
195 200 205	
gtg gag gac ggc ggc ttc gtg gag cag cac gag acc gcc atc gcc cag	672
Val Glu Asp Gly Gly Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln	
210 215 220	
ctg acc agc ctg ggc aat ccc ctg ggc agc ctg cac gag tgg gtg taa	720
Leu Thr Ser Leu Gly Tyr Pro Leu Gly Ser Leu His Glu Trp Val SEQ ID NO:11	
225 230 235	SEQ ID NO:12

Fig. 9

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1					5				10					15		
agc	ttc	aag	gtg	atc	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Ile	Leu	Glu	Gly	Val	Val	Asn	Asn	Asn	His	Val	Phe	Thr
					20				25					30		
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	ttc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	
					35				40				45			
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
					50				55				60			
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
					65				70				75		80	
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
					85				90				95			
tac	gag	cgc	acc	ctg	cgc	tac	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
					100				105				110			
agc	gac	atc	aac	ctg	atc	gag	ggg	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Gly	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
					115				120				125			
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aat	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Asn	Thr	Ile	
					130				135				140			
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
					145				150				155		160	
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
					165				170				175			
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
					180				185				190			
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
					195				200				205			
gtg	gag	gac	ggc	ggc	ttc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
					210				215				220			
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:13	
					225				230				235		SEQ ID NO:14	

Fig. 10

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1					5				10					15		
agc	ttc	aag	gtg	aac	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
					20				25					30		
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	ttc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	
					35				40					45		
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
					50				55					60		
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
					65				70					75		80
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
					85				90					95		
tac	gag	cgc	acc	ctg	cgc	ttc	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Phe	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
					100				105					110		
agc	gac	atc	aac	ctg	atc	gag	gag	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
					115				120					125		
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
					130				135					140		
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
					145				150					155		160
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
					165				170					175		
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
					180				185					190		
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
					195				200					205		
gtg	gag	gac	ggc	ttc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag		672
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
					210				215					220		
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:15	
					225				230					235		SEQ ID NO:16

Fig. 11

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1					5				10					15		
agc	ttc	aag	gtg	aac	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	ccc	96
Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Pro	
					20				25					30		
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	ttc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	
					35				40					45		
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
					50				55					60		
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
					65				70					75		80
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
					85				90					95		
tac	gag	cgc	acc	ctg	cgc	ttc	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Phe	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
					100				105					110		
agc	gac	atc	aac	ctg	atc	gag	gag	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
					115				120					125		
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
					130				135					140		
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
					145				150					155		160
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
					165				170					175		
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
					180				185					190		
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
					195				200					205		
gtg	gag	gac	ggc	ggc	ttc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
					210				215					220		
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:17	
					225				230					235		SEQ ID NO:18

Fig. 12

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1					5				10					15		
agc	ttc	aag	gtg	aac	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
					20				25					30		
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	ttc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	
					35				40				45			
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
					50				55			60				
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
					65				70			75		80		
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
					85				90			95				
tac	gag	cgc	acc	ctg	cgc	tac	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
					100				105			110				
agc	gac	atc	aac	ctg	atc	gag	ggg	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Gly	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
					115				120			125				
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
					130				135			140				
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
					145				150			155		160		
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
					165				170			175				
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
					180				185			190				
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
					195				200			205				
gtg	gag	gac	ggc	ttc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag		672
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
					210				215			220				
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:19	
					225				230			235			SEQ ID NO:20	

Fig. 13

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1					5				10					15		
agc	ttc	aag	gtg	aac	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
					20				25					30		
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	tcc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Ser	Gly	Asn	Gln	Leu	Val	
					35				40					45		
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
					50				55					60		
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
					65				70					80		
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
					85				90					95		
tac	gag	cgc	acc	ctg	cgc	ttc	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Phe	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
					100				105					110		
agc	gac	atc	aac	ctg	atc	gag	gag	atg	ttc	gag	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Glu	Tyr	Arg	Val	Glu	Tyr	
					115				120					125		
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aag	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	
					130				135					140		
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
					145				150					160		
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
					165				170					175		
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
					180				185					190		
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	acc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	
					195				200					205		
gtg	gag	gac	ggc	ggc	ttc	gta	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672
Val	Glu	Asp	Gly	Gly	Phe	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
					210				215					220		
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:21	
					225				230					235	SEQ ID NO:22	

Fig. 14

atg gtg agc aag cag atc ctg aag aac acc ggc ctg cag gag atc atg	48
Met Val Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Met	
1 5 10 15	
agc ttc aag gtg aac ctg gag ggc gtg gtg aac aac cac gtg ttc acc	96
Ser Phe Lys Val Asn Leu Glu Gly Val Val Asn Asn His Val Phe Thr	
20 25 30	
atg gag ggc tgc ggc aag ggc aac atc ctg tcc ggc aac cag ctg gtg	144
Met Glu Gly Cys Gly Lys Gly Asn Ile Leu Ser Gly Asn Gln Leu Val	
35 40 45	
cag atc cgc gtg acc aag ggc gcc ccc ctg ccc ttc gcc ttc gac atc	192
Gln Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile	
50 55 60	
ctg agc ccc gcc ttc cag tac ggc aac cgc acc ttc acc aag tac ccc	240
Leu Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro	
65 70 75 80	
gag gac atc agc gac ttc ttc atc cag agc ttc ccc gcc ggc ttc gtg	288
Glu Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val	
85 90 95	
tac gag cgc acc ctg cgc ttc gag gac ggc ggc ctg gtg gag atc cgc	336
Tyr Glu Arg Thr Leu Arg Phe Glu Asp Gly Gly Leu Val Glu Ile Arg	
100 105 110	
agc gac atc aac ctg atc gag gag atg ttc ggg tac cgc gtg gag tac	384
Ser Asp Ile Asn Leu Ile Glu Glu Met Phe Glu Tyr Arg Val Glu Tyr	
115 120 125	
aag ggc cgc aac ttc ccc aac gac ggc ccc gtg atg aag aag acc atc	432
Lys Gly Arg Asn Phe Pro Asn Asp Gly Pro Val Met Lys Lys Thr Ile	
130 135 140	
acc ggc ctg cag ccc agc ttc gag gtg gtg tac atg aac gac ggc gtg	480
Thr Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val	
145 150 155 160	
ctg gtg ggc cag gtg atc ctg gtg tac cgc ctg aac agc ggc aag ttc	528
Leu Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe	
165 170 175	
tac agc tgc cac atg cgc acc ctg atg aag agc aag ggc gtg gtg aag	576
Tyr Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys	
180 185 190	
gac ttc ccc gag tac cac ttc atc cag cac cgc ctg gag aag acc tac	624
Asp Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr	
195 200 205	
gtg gag gac ggc ggc ttc gtg gag cag cac gag acc gcc atc gcc cag	672
Val Glu Asp Gly Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln	
210 215 220	
ctg acc agc ctg ggc aag ccc ctg ggc agc ctg cac gag tgg gtg taa	720
Leu Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val SEQ ID NO:23	
225 230 235	SEQ ID NO:24

Fig. 15

atg	gtg	agc	aag	cag	atc	ctg	aag	aac	acc	ggc	ctg	cag	gag	atc	atg	48
Met	Val	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	
1					5				10					15		
agc	ttc	aag	gtg	atc	ctg	gag	ggc	gtg	gtg	aac	aac	cac	gtg	ttc	acc	96
Ser	Phe	Lys	Val	Ile	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	
					20				25					30		
atg	gag	ggc	tgc	ggc	aag	ggc	aac	atc	ctg	ttc	ggc	aac	cag	ctg	gtg	144
Met	Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	
					35				40				45			
cag	atc	cgc	gtg	acc	aag	ggc	gcc	ccc	ctg	ccc	ttc	gcc	ttc	gac	atc	192
Gln	Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	
					50				55				60			
ctg	agc	ccc	gcc	ttc	cag	tac	ggc	aac	cgc	acc	ttc	acc	aag	tac	ccc	240
Leu	Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	
					65				70				75		80	
gag	gac	atc	agc	gac	ttc	ttc	atc	cag	agc	ttc	ccc	gcc	ggc	ttc	gtg	288
Glu	Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	
					85				90				95			
tac	gag	cgc	acc	ctg	cgc	ttc	gag	gac	ggc	ggc	ctg	gtg	gag	atc	cgc	336
Tyr	Glu	Arg	Thr	Leu	Arg	Phe	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	
					100				105				110			
agc	gac	atc	aac	ctg	atc	gag	ggg	atg	ttc	gtg	tac	cgc	gtg	gag	tac	384
Ser	Asp	Ile	Asn	Leu	Ile	Glu	Gly	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	
					115				120				125			
aag	ggc	cgc	aac	ttc	ccc	aac	gac	ggc	ccc	gtg	atg	aag	aat	acc	atc	432
Lys	Gly	Arg	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Asn	Thr	Ile	
					130				135				140			
acc	ggc	ctg	cag	ccc	agc	ttc	gag	gtg	gtg	tac	atg	aac	gac	ggc	gtg	480
Thr	Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	
					145				150				155		160	
ctg	gtg	ggc	cag	gtg	atc	ctg	gtg	tac	cgc	ctg	aac	agc	ggc	aag	ttc	528
Leu	Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	
					165				170				175			
tac	agc	tgc	cac	atg	cgc	acc	ctg	atg	aag	agc	aag	ggc	gtg	gtg	aag	576
Tyr	Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	
					180				185				190			
gac	ttc	ccc	gag	tac	cac	ttc	atc	cag	cac	cgc	ctg	gag	aag	gcc	tac	624
Asp	Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Ala	Tyr	
					195				200				205			
gtg	gag	gac	ggc	ggc	atc	gtg	gag	cag	cac	gag	acc	gcc	atc	gcc	cag	672
Val	Glu	Asp	Gly	Gly	Ile	Val	Glu	Gln	His	Glu	Thr	Ala	Ile	Ala	Gln	
					210				215				220			
ctg	acc	agc	ctg	ggc	aag	ccc	ctg	ggc	agc	ctg	cac	gag	tgg	gtg	taa	720
Leu	Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val	SEQ ID NO:25	
					225				230				235		SEQ ID NO:26	

Fig. 16

atg gtg agc aag cag atc ctg aag aac acc ggc ctg cag gag atc atg	48
Met Val Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Met	
1 5 10 15	
agc ttc aag gtg aac ctg gag ggc gtg gtg aac aac cac gtg ttc acc	96
Ser Phe Lys Val Asn Leu Glu Gly Val Val Asn Asn His Val Phe Thr	
20 25 30	
atg gag ggc tgc ggc aag ggc aac atc ctg ttc ggc aac cag ctg gtg	144
Met Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val	
35 40 45	
cag atc cgc gtg acc aag ggc gcc ccc ctg ccc ttc gcc ttc gac atc	192
Gln Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile	
50 55 60	
ctg agc ccc gcc ttc cag tac ggc aac cgc acc ttc acc aag tac ccc	240
Leu Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro	
65 70 75 80	
gag gac atc agc gac ttc ttc atc cag agc ttc ccc gcc ggc ttc gtg	288
Glu Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val	
85 90 95	
tac gag cgc acc ctg cgc tac gag gac ggc ggc ctg gcg gag atc cgc	336
Tyr Glu Arg Thr Leu Arg Tyr Glu Asp Gly Gly Leu Ala Glu Ile Arg	
100 105 110	
agc gac atc aac ctg atc gag ggg atg ttc gtg tac cgc gtg gag tac	384
Ser Asp Ile Asn Leu Ile Glu Gly Met Phe Val Tyr Arg Val Glu Tyr	
115 120 125	
aag ggc cgc aac ttc ccc aac gac ggc ccc gtg atg aag aat acc atc	432
Lys Gly Arg Asn Phe Pro Asn Asp Gly Pro Val Met Lys Asn Thr Ile	
130 135 140	
acc ggc ctg cag ccc agc ttc gag gtg gtg tac atg aac gac ggc gtg	480
Thr Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val	
145 150 155 160	
ctg gtg ggc cag gtg atc ctg gtg tac cgc ctg aac agc ggc aag ttc	528
Leu Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe	
165 170 175	
tac agc tgc cac atg cgc acc ctg atg aag agc aag ggc gtg gtg aag	576
Tyr Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys	
180 185 190	
gac ttc ccc gag tac cac ttc atc cag cac cgc ctg gag aag acc tac	624
Asp Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr	
195 200 205	
gtg gag gac ggc ggc ttc gtg gag cag cac gag acc gcc atc gcc cag	672
Val Glu Asp Gly Gly Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln	
210 215 220	
ctg acc agc ctg ggc aag ccc ctg ggc agc ctg cac gag tgg gtg taa	720
Leu Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val SEQ ID NO:27	
225 230 235	SEQ ID NO:28

Fig. 17

atg gtg agc aag cag atc ctg aag aac acc ggc ctg cag gag atc gtg	48
Met Val Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Val	
1 5 10 15	
agc ttc aag gtg atc ctg gag ggc gtg gtg aac aac cac gtg ttc acc	96
Ser Phe Lys Val Ile Leu Glu Gly Val Val Asn Asn His Val Phe Thr	
20 25 30	
atg gag ggc tgc ggc aag ggc aac atc ctg ttc ggc aac cag ctg gtg	144
Met Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val	
35 40 45	
cag atc cgc gtg acc aag ggc gcc ccc ctg ccc ttc gcc ttc gac atc	192
Gln Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile	
50 55 60	
ctg agc ccc gcc ttc cag tac ggc aac cgc acc ttc acc aag tac ccc	240
Leu Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro	
65 70 75 80	
gag gac atc agc gac ttc ttc atc cag agc ttc ccc gcc ggc ttc gtg	288
Glu Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val	
85 90 95	
tac gag cgc acc ctg cgc tac gag gac ggc ggc ctg gtg gag atc cgc	336
Tyr Glu Arg Thr Leu Arg Tyr Glu Asp Gly Gly Leu Val Glu Ile Arg	
100 105 110	
agc gac atc aac ctg atc gag ggg atg ttc gtg tac cgc gtg gag tac	384
Ser Asp Ile Asn Leu Ile Glu Gly Met Phe Val Tyr Arg Val Glu Tyr	
115 120 125	
aag ggc cgc aac ttc ccc aac gac ggc ccc gtg atg aag aat acc atc	432
Lys Gly Arg Asn Phe Pro Asn Asp Gly Pro Val Met Lys Asn Thr Ile	
130 135 140	
acc ggc ctg cag ccc agc ttc gag gtg gtg tac atg aac gac ggc gtg	480
Thr Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val	
145 150 155 160	
ctg gtg ggc cag gtg atc ctg gtg tac cgc ctg aac tgc ggc aag ttc	528
Leu Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Cys Gly Lys Phe	
165 170 175	
tac agc tgc cac atg cgc acc ctg atg aag agc aag ggc gtg gtg aag	576
Tyr Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys	
180 185 190	
gac ttc ccc gag tac cac ttc atc cag cac cgc ctg gag aag acc tac	624
Asp Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr	
195 200 205	
gtg gag gac ggc ggc ttc gtg gag cag cac gag acc gcc atc gcc cag	672
Val Glu Asp Gly Gly Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln	
210 215 220	
ctg acc agc ctg ggc aag ccc ctg ggc agc ctg cac gag tgg gtg taa	720
Leu Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val SEQ ID NO:29	
225 230 235	SEQ ID NO:30

Fig. 18

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48	
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser		
1				5					10				15				
ttt	aaa	gtg	aat	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96	
Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met		
				20				25				30					
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	ttc	gga	aac	caa	ctg	gtt	cag	144	
Glu	Gly	Cys	Gly	Lys	Gly	Asn		Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	Gln	
				35				40				45					
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192	
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu		
				50				55			60						
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240	
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu		
				65				70			75			80			
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288	
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr		
				85				90			95						
gaa	aga	acg	ttg	cgt	tac	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336	
Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser		
				100				105			110						
gat	ata	aat	tta	atc	gag	gag	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384	
Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys		
				115				120			125						
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aag	aca	atc	aca	432	
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	Thr		
				130				135			140						
gga	tta	caa	cct	tcg	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480	
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu		
				145				150			155			160			
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528	
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr		
				165				170			175						
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576	
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp		
				180				185			190						
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624	
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val		
				195				200			205						
gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672	
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu		
				210				215			220						
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt			714	
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val				
				225				230			235					SEQ ID NO:31	
															SEQ ID NO:32		

Fig. 19

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser	
1				5				10				15				
ttt	aaa	gtg	aat	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96
Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met	
				20				25				30				
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	tta	gga	aac	caa	ctg	gtt	cag	144
Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Leu	Gly	Asn	Gln	Leu	Val	Gln	
				35				40				45				
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	
				50				55				60				
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu	
				65				70				75			80	
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr	
				85				90				95				
gaa	aga	acg	ttg	cgt	tac	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336
Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser	
				100				105				110				
gat	ata	aat	tta	atc	gag	gag	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384
Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys	
				115				120				125				
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aag	aca	atc	aca	432
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	Thr	
				130				135				140				
gga	tta	caa	cct	tcg	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu	
				145				150				155			160	
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr	
				165				170				175				
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp	
				180				185				190				
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	
				195				200				205				
gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu	
				210				215				220				
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt			714
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val			
				225				230				235				SEQ ID NO:33
															SEQ ID NO:34	

Fig. 20

atg agt aaa caa ata ttg aag aac act gga ttg cag gag atc atg tcg	48
Met Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Met Ser	
1 5 10 15	
ttt aaa gtg aat ctg gaa ggt gta gta aac aat cat gtg ttc aca atg	96
Phe Lys Val Asn Leu Glu Gly Val Val Asn Asn His Val Phe Thr Met	
20 25 30	
gaa ggt tgt gga aaa gga aat att tta ttc gga aac caa ctg gtt cag	144
Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val Gln	
35 40 45	
att cgt gtc aca aaa ggg gct ccg ctt cca ttt gca ttt gat att ctc	192
Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile Leu	
50 55 60	
tca cca gct ttc caa tac ggc aac cgt aca ttc acg aaa tac ccg gag	240
Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Glu	
65 70 75 80	
gat ata tca gac ttt ttt ata caa tca ttt cca gcg gga ttt gta tac	288
Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val Tyr	
85 90 95	
gaa aga acg ttg cgt tac gaa gat ggt gga ctg gtt gaa atc cgt tca	336
Glu Arg Thr Leu Arg Tyr Glu Asp Gly Gly Leu Val Glu Ile Arg Ser	
100 105 110	
gat ata aat tta atc gag ggg atg ttt gtc tac aga gtg gaa tat aaa	384
Asp Ile Asn Leu Ile Glu Gly Met Phe Val Tyr Arg Val Glu Tyr Lys	
115 120 125	
ggg agt aac ttc ccg aat gat ggt cca gtg atg aag aag aca atc aca	432
Gly Ser Asn Phe Pro Asn Asp Gly Pro Val Met Lys Lys Thr Ile Thr	
130 135 140	
gga tta caa cct tcg ttc gaa gtt gtg tat atg aac gat ggc gtc ttg	480
Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val Leu	
145 150 155 160	
gtt ggc caa gtc att ctt gtt tat aga tta aac tct ggc aaa ttt tat	528
Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe Tyr	
165 170 175	
tcg tgt cac atg aga aca ctg atg aaa tca aag ggt gta gtg aag gat	576
Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys Asp	
180 185 190	
ttt ccc gaa tac cat ttc att caa cat cgt tta gag aag acg tat gtg	624
Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr Val	
195 200 205	
gaa gac gga ggt ttt gta gag gaa cac gag acg gcc att gct caa ctg	672
Glu Asp Gly Gly Phe Val Glu Glu His Glu Thr Ala Ile Ala Gln Leu	
210 215 220	
aca tcg ctg ggg aaa cca ctt gga tcc tta cac gaa tgg gtt	714
Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val	
225 230 235	
	SEQ ID NO:35
	SEQ ID NO:36

Fig. 21

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser	
1				5					10				15			
ttt	aaa	gtg	aat	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96
Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met	
				20				25				30				
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	ttc	gga	aac	caa	ctg	gtt	cag	144
Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	Gln	
				35				40			45					
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	
				50				55			60					
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu	
				65				70			75		80			
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr	
				85				90			95					
gaa	aga	acg	atg	cgt	tac	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336
Glu	Arg	Thr	Met	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser	
				100				105			110					
gat	ata	aat	tta	atc	gag	gag	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384
Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys	
				115				120			125					
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aag	aca	atc	aca	432
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	Thr	
				130				135			140					
gga	tta	caa	cct	tcg	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu	
				145				150			155		160			
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr	
				165				170			175					
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp	
				180				185			190					
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	
				195				200			205					
gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu	
				210				215			220					
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt			714
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val			SEQ ID NO:37
				225				230			235					SEQ ID NO:38

Fig. 22

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser	
1				5					10				15			
ttt	aaa	gtg	aat	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96
Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met	
				20				25				30				
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	tcc	gga	aac	caa	ctg	gtt	cag	144
Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Ser	Gly	Asn	Gln	Leu	Val	Gln	
				35				40			45					
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	
				50				55			60					
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu	
				65				70			75			80		
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr	
				85				90			95					
gaa	aga	acg	ttg	cgt	tac	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336
Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser	
				100				105			110					
gat	ata	aat	tta	atc	gag	gag	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384
Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys	
				115				120			125					
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aag	aca	atc	aca	432
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	Thr	
				130				135			140					
gga	tta	caa	cct	tcg	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu	
				145				150			155			160		
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr	
				165				170			175					
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp	
				180				185			190					
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	
				195				200			205					
gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu	
				210				215			220					
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt			714
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val			
				225				230			235					SEQ ID NO:39
																SEQ ID NO:40

Fig. 23

atg agt aaa caa ata ttg aag aac act gga ttg cag gag atc atg tcg	48
Met Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Met Ser	
1 5 10 15	
ttt aaa gtg aat ctg gaa ggt gta gta aac aat cat gtg ttc aca atg	96
Phe Lys Val Asn Leu Glu Gly Val Val Asn Asn His Val Phe Thr Met	
20 25 30	
gaa ggt tgc gga aaa gga aat att tta ttc gga aac caa ctg gtt cag	144
Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val Gln	
35 40 45	
att cgt gtc aca aaa ggg gct ccg ctt cca ttt gca ttt gat att ctc	192
Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile Leu	
50 55 60	
tca cca gct ttc caa tac ggc aac cgt aca ttc acg aaa tac ccg gag	240
Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Glu	
65 70 75 80	
gat ata tca gac ttt ttt ata caa tca ttt cca gcg gga ttt gta tac	288
Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val Tyr	
85 90 95	
gaa aga acg ttg tgc tac gaa gat ggt gga ctg gtt gaa atc cgt tca	336
Glu Arg Thr Leu Cys Tyr Glu Asp Gly Gly Leu Val Glu Ile Arg Ser	
100 105 110	
gat ata aat tta atc gag gag atg ttt gtc tac cat gtg gaa tat aaa	384
Asp Ile Asn Leu Ile Glu Glu Met Phe Val Tyr His Val Glu Tyr Lys	
115 120 125	
ggc agt aac ttc ccg aat gat ggt cca gtg atg aag aag aca atc aca	432
Gly Ser Asn Phe Pro Asn Asp Gly Pro Val Met Lys Lys Thr Ile Thr	
130 135 140	
gga tta caa cct tcg ttc gaa gtt gtg tat atg aac gat ggc gtc ttg	480
Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val Leu	
145 150 155 160	
gtt ggc caa gtc att ctt gtt tat aga tta aac tct ggc aaa ttt tat	528
Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe Tyr	
165 170 175	
tcg tgc cac atg aga aca ctg atg aaa tca aag ggt gta gtg aag gat	576
Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys Asp	
180 185 190	
ttt ccc gaa tac cat ttc att caa cat cgt tta gag aag acg tat gtg	624
Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr Val	
195 200 205	
gaa gac gga ggt ttt gtt gag gaa cac gag acg gcc att gct caa ctg	672
Glu Asp Gly Gly Phe Val Glu Glu His Glu Thr Ala Ile Ala Gln Leu	
210 215 220	
aca tcg ctg ggg aat cca ctt gga tcc tta cac gaa tgg gtt	714
Thr Ser Leu Gly Tyr Pro Leu Gly Ser Leu His Glu Trp Val	
225 230 235	
SEQ ID NO:41	
SEQ ID NO:42	

Fig. 24

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser	
1				5					10				15			
ttt	aaa	gtg	att	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96
Phe	Lys	Val	Ile	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met	
				20				25				30				
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	ttc	gga	aac	caa	ctg	gtt	cag	144
Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	Gln	
				35				40				45				
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	
				50				55			60					
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu	
				65				70			75			80		
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr	
				85				90			95					
gaa	aga	acg	ttg	cgt	tac	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336
Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser	
				100				105			110					
gat	ata	aat	tta	atc	gag	ggg	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384
Asp	Ile	Asn	Leu	Ile	Glu	Gly	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys	
				115				120			125					
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aat	aca	atc	aca	432
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Asn	Thr	Ile	Thr	
				130				135			140					
gga	tta	caa	cct	tcg	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu	
				145				150			155			160		
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr	
				165				170			175					
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp	
				180				185			190					
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	
				195				200			205					
gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu	
				210				215			220					
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt			714
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val			
				225				230			235					SEQ ID NO:43
															SEQ ID NO:44	

Fig. 25

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser	
1				5					10				15			
ttt	aaa	gtg	aat	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96
Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met	
				20				25				30				
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	ttc	gga	aac	caa	ctg	gtt	cag	144
Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	Gln	
				35				40				45				
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	
				50				55				60				
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu	
				65				70				75			80	
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr	
				85				90				95				
gaa	aga	acg	ttg	cgt	ttc	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336
Glu	Arg	Thr	Leu	Arg	Phe	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser	
				100				105				110				
gat	ata	aat	tta	atc	gag	gag	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384
Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys	
				115				120				125				
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aag	aca	atc	aca	432
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	Thr	
				130				135				140				
gga	tta	caa	cct	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480	
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu	
				145				150				155			160	
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr	
				165				170				175				
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp	
				180				185				190				
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	
				195				200				205				
gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu	
				210				215				220				
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt		714	
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val		SEQ ID NO:45	
				225				230				235			SEQ ID NO:46	

Fig. 26

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser	
1				5					10				15			
ttt	aaa	gtg	aat	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	cca	atg	96
Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Pro	Met	
				20					25				30			
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	ttc	gga	aac	caa	ctg	gtt	cag	144
Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	Gln	
				35					40			45				
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	
				50					55			60				
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu	
				65					70		75		80			
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr	
					85				90			95				
gaa	aga	acg	ttg	cgt	ttc	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336
Glu	Arg	Thr	Leu	Arg	Phe	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser	
				100					105			110				
gat	ata	aat	tta	atc	gag	gag	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384
Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys	
				115					120			125				
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aag	aca	atc	aca	432
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	Thr	
				130					135			140				
gga	tta	caa	cct	tcg	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu	
				145					150		155		160			
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr	
					165				170			175				
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp	
				180					185			190				
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	
				195					200			205				
gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu	
				210					215			220				
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt			714
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val			SEQ ID NO:47
				225					230			235				SEQ ID NO:48

Fig. 27

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser	
1				5					10				15			
ttt	aaa	gtg	aat	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96
Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met	
				20				25			30					
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	ttc	gga	aac	caa	ctg	gtt	cag	144
Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	Gln	
				35				40			45					
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	
				50				55			60					
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu	
				65				70			75			80		
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr	
				85				90			95					
gaa	aga	acg	ttg	cgt	tac	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336
Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser	
				100				105			110					
gat	ata	aat	tta	atc	gag	ggg	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384
Asp	Ile	Asn	Leu	Ile	Glu	Gly	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys	
				115				120			125					
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aag	aca	atc	aca	432
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	Thr	
				130				135			140					
gga	tta	caa	cct	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480	
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu	
				145				150			155			160		
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr	
				165				170			175					
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp	
				180				185			190					
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	
				195				200			205					
gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu	
				210				215			220					
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt		714	
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val		SEQ ID NO:49	
				225				230			235				SEQ ID NO:50	

Fig. 28

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser	
1				5					10				15			
ttt	aaa	gtg	aat	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96
Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met	
				20				25				30				
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	tcc	gga	aac	caa	ctg	gtt	cag	144
Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Ser	Gly	Asn	Gln	Leu	Val	Gln	
				35				40			45					
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	
				50				55			60					
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu	
				65				70			75			80		
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr	
				85				90			95					
gaa	aga	acg	ttg	cgt	ttc	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336
Glu	Arg	Thr	Leu	Arg	Phe	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser	
				100				105			110					
gat	ata	aat	tta	atc	gag	gag	atg	ttt	gag	tac	aga	gtg	gaa	tat	aaa	384
Asp	Ile	Asn	Leu	Ile	Glu	Glu	Met	Phe	Glu	Tyr	Arg	Val	Glu	Tyr	Lys	
				115				120			125					
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aag	aca	atc	aca	432
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Lys	Thr	Ile	Thr	
				130				135			140					
gga	tta	caa	cct	tcg	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu	
				145				150			155			160		
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr	
				165				170			175					
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp	
				180				185			190					
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	
				195				200			205					
gaa	gac	gga	ggt	ttt	gta	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu	
				210				215			220					
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt			714
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val			
				225				230			235					SEQ ID NO:51
																SEQ ID NO:52

Fig. 29

atg agt aaa caa ata ttg aag aac act gga ttg cag gag atc atg tcg	48
Met Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Met Ser	
1 5 10 15	
ttt aaa gtg aat ctg gaa ggt gta gta aac aat cat gtg ttc aca atg	96
Phe Lys Val Asn Leu Glu Gly Val Val Asn Asn His Val Phe Thr Met	
20 25 30	
gaa ggt tgt gga aaa gga aat att tta tcc gga aac caa ctg gtt cag	144
Glu Gly Cys Gly Lys Gly Asn Ile Leu Ser Gly Asn Gln Leu Val Gln	
35 40 45	
att cgt gtc aca aaa ggg gct ccg ctt cca ttt gca ttt gat att ctc	192
Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile Leu	
50 55 60	
tca cca gct ttc caa tac ggc aac cgt aca ttc acg aaa tac ccg gag	240
Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Glu	
65 70 75 80	
gat ata tca gac ttt ttt ata caa tca ttt cca gcg gga ttt gta tac	288
Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val Tyr	
85 90 95	
gaa aga acg ttg cgt ttc gaa gat ggt gga ctg gtt gaa atc cgt tca	336
Glu Arg Thr Leu Arg Phe Glu Asp Gly Gly Leu Val Glu Ile Arg Ser	
100 105 110	
gat ata aat tta atc gag gag atg ttt gag tac aga gtg gaa tat aaa	384
Asp Ile Asn Leu Ile Glu Glu Met Phe Glu Tyr Arg Val Glu Tyr Lys	
115 120 125	
ggg agt aac ttc ccg aat gat ggt cca gtg atg aag aag aca atc aca	432
Gly Ser Asn Phe Pro Asn Asp Gly Pro Val Met Lys Lys Thr Ile Thr	
130 135 140	
gga tta caa cct tcg ttc gaa gtt gtg tat atg aac gat ggc gtc ttg	480
Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val Leu	
145 150 155 160	
gtt ggc caa gtc att ctt gtt tat aga tta aac tct ggc aaa ttt tat	528
Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe Tyr	
165 170 175	
tcg tgt cac atg aga aca ctg atg aaa tca aag ggt gta gtg aag gat	576
Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys Asp	
180 185 190	
ttt ccc gaa tac cat ttc att caa cat cgt tta gag aag acg tat gtg	624
Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr Val	
195 200 205	
gaa gac gga ggt ttt gtt gag gaa cac gag acg gcc att gct caa ctg	672
Glu Asp Gly Gly Phe Val Glu Glu His Glu Thr Ala Ile Ala Gln Leu	
210 215 220	
aca tcg ctg ggg aaa cca ctt gga tcc tta cac gaa tgg gtt	714
Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val	
225 230 235	SEQ ID NO:53
	SEQ ID NO:54

Fig. 30

atg agt aaa caa ata ttg aag aac act gga ttg cag gag atc atg tcg	48
Met Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Met Ser	
1 5 10 15	
ttt aaa gtg att ctg gaa ggt gta gta aac aat cat gtg ttc aca atg	96
Phe Lys Val Ile Leu Glu Gly Val Val Asn Asn His Val Phe Thr Met	
20 25 30	
gaa ggt tgt gga aaa gga aat att tta ttc gga aac caa ctg gtt cag	144
Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val Gln	
35 40 45	
att cgt gtc aca aaa ggg gct ccg ctt cca ttt gca ttt gat att ctc	192
Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile Leu	
50 55 60	
tca cca gct ttc caa tac ggc aac cgt aca ttc acg aaa tac ccg gag	240
Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Glu	
65 70 75 80	
gat ata tca gac ttt ttt ata caa tca ttt cca gcg gga ttt gta tac	288
Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val Tyr	
85 90 95	
gaa aga acg ttg cgt ttc gaa gat ggt gga ctg gtt gaa atc cgt tca	336
Glu Arg Thr Leu Arg Phe Glu Asp Gly Gly Leu Val Glu Ile Arg Ser	
100 105 110	
gat ata aat tta atc gag ggg atg ttt gtc tac aga gtg gaa tat aaa	384
Asp Ile Asn Leu Ile Glu Gly Met Phe Val Tyr Arg Val Glu Tyr Lys	
115 120 125	
ggt agt aac ttc ccg aat gat ggt cca gtg atg aag aat aca atc aca	432
Gly Ser Asn Phe Pro Asn Asp Gly Pro Val Met Lys Asn Thr Ile Thr	
130 135 140	
gga tta caa cct tcg ttc gaa gtt gtg tat atg aac gat ggc gtc ttg	480
Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val Leu	
145 150 155 160	
gtt ggc caa gtc att ctt gtt tat aga tta aac tct ggc aaa ttt tat	528
Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Phe Tyr	
165 170 175	
tcg tgt cac atg aga aca ctg atg aaa tca aag ggt gta gtg aag gat	576
Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys Asp	
180 185 190	
ttt ccc gaa tac cat ttc att caa cat cgt tta gag aag gcg tat gtg	624
Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Ala Tyr Val	
195 200 205	
gaa gac gga ggt att gtt gag gaa cac gag acg gcc att gct caa ctg	672
Glu Asp Gly Gly Ile Val Glu Glu His Glu Thr Ala Ile Ala Gln Leu	
210 215 220	
aca tcg ctg ggg aaa cca ctt gga tcc tta cac gaa tgg gtt	714
Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val	
225 230 235	SEQ ID NO:55
	SEQ ID NO:56

Fig. 31

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	atg	tcg	48	
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Met	Ser		
1				5				10					15				
ttt	aaa	gtg	aat	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96	
Phe	Lys	Val	Asn	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met		
				20				25					30				
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	ttc	gga	aac	caa	ctg	gtt	cag	144	
Glu	Gly	Cys	Gly	Lys	Gly	Asn		Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	Gln	
				35				40					45				
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192	
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu		
				50				55					60				
tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240	
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu		
				65				70					75		80		
gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gcg	gga	ttt	gta	tac	288	
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr		
				85				90					95				
gaa	aga	acg	ttg	cgt	tac	gaa	gat	ggt	gga	ctg	gct	gaa	atc	cgt	tca	336	
Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Ala	Glu	Ile	Arg	Ser		
				100				105					110				
gat	ata	aat	tta	atc	gag	ggg	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384	
Asp	Ile	Asn	Leu	Ile	Glu	Gly	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys		
				115				120					125				
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aat	aca	atc	aca	432	
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Asn	Thr	Ile	Thr		
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gga	tta	caa	cct	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480		
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu		
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gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tct	ggc	aaa	ttt	tat	528	
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Ser	Gly	Lys	Phe	Tyr		
				165				170					175				
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576	
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp		
				180				185					190				
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624	
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val		
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gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672	
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu		
				210				215					220				
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt		714		
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val		SEQ ID NO:57		
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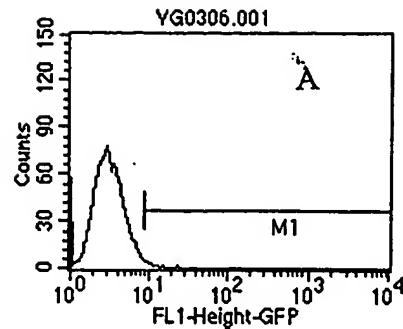
Fig. 32

atg	agt	aaa	caa	ata	ttg	aag	aac	act	gga	ttg	cag	gag	atc	gtg	tcg	48
Met	Ser	Lys	Gln	Ile	Leu	Lys	Asn	Thr	Gly	Leu	Gln	Glu	Ile	Val	Ser	
1				5					10				15			
ttt	aaa	gtg	att	ctg	gaa	ggt	gta	gta	aac	aat	cat	gtg	ttc	aca	atg	96
Phe	Lys	Val	Ile	Leu	Glu	Gly	Val	Val	Asn	Asn	His	Val	Phe	Thr	Met	
				20				25				30				
gaa	ggt	tgt	gga	aaa	gga	aat	att	tta	ttc	gga	aac	caa	ctg	gtt	cag	144
Glu	Gly	Cys	Gly	Lys	Gly	Asn	Ile	Leu	Phe	Gly	Asn	Gln	Leu	Val	Gln	
				35				40				45				
att	cgt	gtc	aca	aaa	ggg	gct	ccg	ctt	cca	ttt	gca	ttt	gat	att	ctc	192
Ile	Arg	Val	Thr	Lys	Gly	Ala	Pro	Leu	Pro	Phe	Ala	Phe	Asp	Ile	Leu	
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tca	cca	gct	ttc	caa	tac	ggc	aac	cgt	aca	ttc	acg	aaa	tac	ccg	gag	240
Ser	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Glu	
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gat	ata	tca	gac	ttt	ttt	ata	caa	tca	ttt	cca	gct	gga	ttt	gta	tac	288
Asp	Ile	Ser	Asp	Phe	Phe	Ile	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Val	Tyr	
				85				90			95					
gaa	aga	acg	ttg	cgt	tac	gaa	gat	ggt	gga	ctg	gtt	gaa	atc	cgt	tca	336
Glu	Arg	Thr	Leu	Arg	Tyr	Glu	Asp	Gly	Gly	Leu	Val	Glu	Ile	Arg	Ser	
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gat	ata	aat	tta	atc	gag	ggg	atg	ttt	gtc	tac	aga	gtg	gaa	tat	aaa	384
Asp	Ile	Asn	Leu	Ile	Glu	Gly	Met	Phe	Val	Tyr	Arg	Val	Glu	Tyr	Lys	
				115				120			125					
ggt	agt	aac	ttc	ccg	aat	gat	ggt	cca	gtg	atg	aag	aat	aca	atc	aca	432
Gly	Ser	Asn	Phe	Pro	Asn	Asp	Gly	Pro	Val	Met	Lys	Asn	Thr	Ile	Thr	
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gga	tta	caa	cct	ttc	gaa	gtt	gtg	tat	atg	aac	gat	ggc	gtc	ttg	480	
Gly	Leu	Gln	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Asp	Gly	Val	Leu	
				145				150			155			160		
gtt	ggc	caa	gtc	att	ctt	gtt	tat	aga	tta	aac	tgt	ggc	aaa	ttt	tat	528
Val	Gly	Gln	Val	Ile	Leu	Val	Tyr	Arg	Leu	Asn	Cys	Gly	Lys	Phe	Tyr	
				165				170			175					
tcg	tgt	cac	atg	aga	aca	ctg	atg	aaa	tca	aag	ggt	gta	gtg	aag	gat	576
Ser	Cys	His	Met	Arg	Thr	Leu	Met	Lys	Ser	Lys	Gly	Val	Val	Lys	Asp	
				180				185			190					
ttt	ccc	gaa	tac	cat	ttc	att	caa	cat	cgt	tta	gag	aag	acg	tat	gtg	624
Phe	Pro	Glu	Tyr	His	Phe	Ile	Gln	His	Arg	Leu	Glu	Lys	Thr	Tyr	Val	
				195				200			205					
gaa	gac	gga	ggt	ttt	gtt	gag	gaa	cac	gag	acg	gcc	att	gct	caa	ctg	672
Glu	Asp	Gly	Gly	Phe	Val	Glu	Glu	His	Glu	Thr	Ala	Ile	Ala	Gln	Leu	
				210				215			220					
aca	tcg	ctg	ggg	aaa	cca	ctt	gga	tcc	tta	cac	gaa	tgg	gtt		714	
Thr	Ser	Leu	Gly	Lys	Pro	Leu	Gly	Ser	Leu	His	Glu	Trp	Val		SEQ ID NO:59	
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Fig. 33

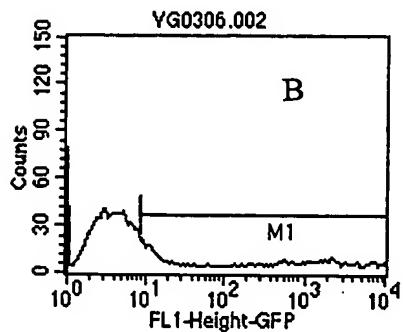
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ttt aaa gtg aat ctg gaa ggt gta gta aac aat cat gtg ttc aca atg	96
Phe Lys Val Asn Leu Glu Gly Val Val Asn Asn His Val Phe Thr Met	
20 25 30	
gaa ggt tgt gga aaa gga aat att tta ttc gga aac caa ctg gtt cag	144
Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val Gln	
35 40 45	
att cgt gtc aca aaa ggg gct ccg ctt cca ttt gca ttt gat att ctc	192
Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile Leu	
50 55 60	
tca cca gcc ttc caa tac ggc aac cgt aca ttc acg aaa tac ccg gag	240
Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Glu	
65 70 75 80	
gat ata tca gac ttt ttt ata caa tca ttt cca gcg gga ttt gta tac	288
Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val Tyr	
85 90 95	
gaa aga gcg ttg cgt tac gaa gat ggt gga ctg gtt gaa atc cgt tca	336
Glu Arg Ala Leu Arg Tyr Glu Asp Gly Gly Leu Val Glu Ile Arg Ser	
100 105 110	
gat ata aat tta atc gag gag atg ttt gtc tac aga gtg gaa tat aaa	384
Asp Ile Asn Leu Ile Glu Glu Met Phe Val Tyr Arg Val Glu Tyr Lys	
115 120 125	
ggt agt aac ttc ccg aat gat ggt cca gtg atg aag aac atc aca	432
Gly Ser Asn Phe Pro Asn Asp Gly Pro Val Met Lys Lys Thr Ile Thr	
130 135 140	
gga tta caa cct tcg ttc gaa gtt gtg tat atg aac gat ggc gtc ttg	480
Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val Leu	
145 150 155 160	
gtt ggc caa gtc att ctt gtt tat aga tta aac tct ggc aaa ttt tat	528
Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe Tyr	
165 170 175	
tcg tgt cac atg aga aca ctg atg aaa tca aag ggt gta gtg aag gat	576
Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys Asp	
180 185 190	
ttt ccc gaa tac cat ttc att caa cat cgt tta gag aag acg tat gtg	624
Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr Val	
195 200 205	
gaa gac gga ggt ttt gtt gag gaa cac gag acg gcc att gct caa ctg	672
Glu Asp Gly Gly Phe Val Glu Glu His Glu Thr Ala Ile Ala Gln Leu	
210 215 220	
aca tcg ctg ggg aaa cca ctt gga tcc tta cac gaa tgg gtt	714
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	SEQ ID NO:62

Fig. 34



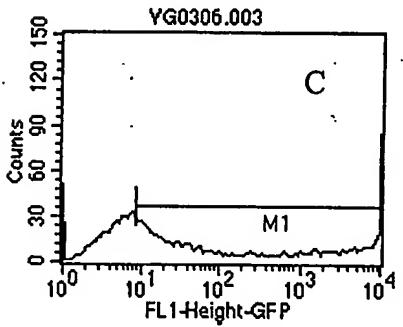
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 Total Events: 7580 X Parameter: FL1-H FL1-Height-GFP (Log)

Marker	Left, Right	Events	% Gated	% Total	Mean	Geo Mean	CV	Median	Peak Ch
All	1, 9910	7580	100.00	100.00	3.36	2.99	154.89	2.92	1
M1	9, 9910	82	1.08	1.08	20.01	12.85	229.04	10.09	8



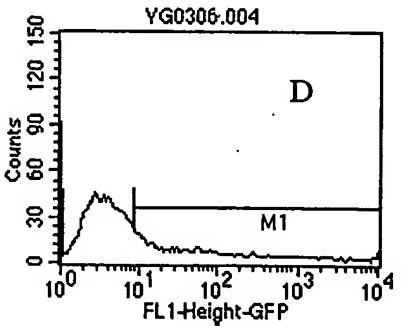
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 Total Events: 10000 X Parameter: FL1-H FL1-Height-GFP (Log)

Marker	Left, Right	Events	% Gated	% Total	Mean	Geo Mean	CV	Median	Peak Ch
All	1, 9910	10000	100.00	100.00	544.17	18.67	284.72	6.10	1
M1	9, 9910	4079	40.79	40.79	1328.43	217.61	165.73	254.83	8



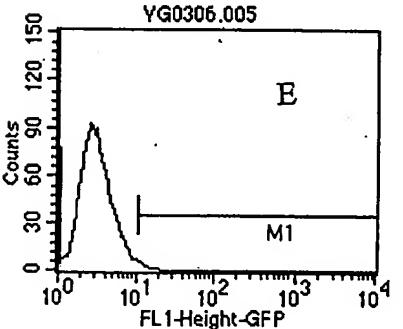
File: VG0306.003 Acquisition Date: 06-Mar-03
 Gate: No Gate Gated Events: 10000
 Total Events: 10000 X Parameter: FL1-H FL1-Height-GFP (Log)

Marker	Left, Right	Events	% Gated	% Total	Mean	Geo Mean	CV	Median	Peak Ch
All	1, 9910	10000	100.00	100.00	1614.60	62.96	194.05	18.27	9910
M1	9, 9910	6569	65.69	65.69	2455.40	255.51	146.18	161.08	9910



File: VG0306.004 Acquisition Date: 06-Mar-03
 Gate: No Gate Gated Events: 10000
 Total Events: 10000 X Parameter: FL1-H FL1-Height-GFP (Log)

Marker	Left, Right	Events	% Gated	% Total	Mean	Geo Mean	CV	Median	Peak Ch
All	1, 9910	10000	100.00	100.00	260.71	11.12	433.05	5.38	1
M1	9, 9910	3665	36.65	36.65	704.84	89.87	252.49	54.74	8



File: VG0306.005 Acquisition Date: 06-Mar-03
 Gate: No Gate Gated Events: 10000
 Total Events: 10000 X Parameter: FL1-H FL1-Height-GFP (Log)

Marker	Left, Right	Events	% Gated	% Total	Mean	Geo Mean	CV	Median	Peak Ch
All	1, 9910	10000	100.00	100.00	3.29	2.89	62.01	2.84	1
M1	10, 9910	104	1.04	1.04	13.77	13.04	52.84	12.13	10

Fig. 35